CLAIM AMENDMENT

Claims 1-24 (Cancelled)

25. (currently amended) An electronic parking meter system comprising:

an electronic parking meter for determining the time a parking space associated with the parking meter is occupied by a vehicle and receiving coins denoting desired parking time and indicating said time;

an inductive loop vehicle detection sensor located to detect both the physical presence or absence of a vehicle in said parking space and emitting a respective signal indicative thereof;

a microprocessor controller coupled to the sensor and the electronic parking meter for selectively controlling the electronic parking meter and the controller responsive to the sensor signal;

the electronic parking meter indicating time provided upon payment with a vehicle occupying said space to obtain a fixed amount of time in accordance with the amount of payment, said electronic parking meter decrementing the indicated time;

said controller initializing said electronic parking meter to zero when the sensor signals the controller that a vehicle no longer occupies the parking space;

said detection sensor includes a variable oscillator circuit oscillating at a base frequency and responsive to the inductance of the inductive loop for indicating the presence or absence of a vehicle in the parking space;

said microprocessor controller including a crystal oscillator operating at approximately 50 times the base frequency of the variable oscillator circuit and ~~providing a signal including the crystal oscillator for controlling the variable oscillator circuit~~ and initiating a 12.5ms long charge to said variable oscillator circuit every 2.5 seconds for the purpose of measuring the operating frequency of said circuit while conserving power as needed for the practical application of the technology in parking control;

the presence or absence of a vehicle in the parking space causing a respective decrease or increase in the inductance of the inductive loop and a respective commensurate increase or decrease in the operating frequency and a respective decrease or increase in the period of the variable oscillator circuit, thereby decreasing or increasing the number of crystal oscillator pulses in each period of the variable oscillator circuit;

said oscillator providing an output signal including said crystal oscillator pulses to said microprocessor controller; and

said microprocessor controller superimposes the pulses received from the variable oscillator circuit during each 12.5 ms time frame in which the variable oscillator circuit is charged with those measured by the cycle clock to determine the presence or absence of a vehicle in the parking space ~~counting the number of pulses~~

~~in a given cycle of operation of the variable oscillator circuit to determine the presence or absence of a vehicle in the parking space.~~

Claims 26.-28 (cancelled)

Claim 29 (previously presented) An electronic parking meter system according to claim 25, wherein said electronic parking meter further including means for counting coins deposited therein and setting a time interval for notifying the controller of the amount of coins deposited; means for continuously measuring the amount of time remaining in said time interval; and means for displaying the amount of time remaining on the meter and flashing "zero" to indicate "zero" time.

Claim 30 (previously presented) An electronic parking meter system according to claim 25, wherein said electronic parking meter further including means for signaling the controller that a vehicle is in the parking space and that no coins have been deposited in the electronic parking meter .

Claim 31 (previously presented) An electronic parking meter system according to claim 30, wherein said electronic parking meter further including means for delaying the notification of the controller of the depositing of coins in the electronic parking meter from the time that the detection sensor detects the presence of a vehicle in said parking space.

32. (Amended) An electronic parking meter system comprising:

multiple electronic parking meters, each electronic parking meter respectively determining the time a parking space associated with the respective electronic parking meter is occupied by a vehicle and receiving coins denoting desired parking time and indicating that time;

multiple inductive loop vehicle detection sensors and each respective inductive loop vehicle detection sensor being located to detect both the physical presence or absence of a vehicle in said respective parking space and emitting a respective signal indicative thereof;

multiple microprocessor controllers, each controller being coupled to a corresponding sensor and a corresponding electronic parking meter for selectively controlling each electronic parking meter and each controller responsive to a respective sensor signal;

each electronic parking meter indicating time provided upon payment with a vehicle occupying said space to obtain a fixed amount of time in accordance with the amount of payment, each said electronic parking meter decrementing the indicated time;

said controller initializing said electronic parking meter to zero when the corresponding sensor signals the corresponding controller that a vehicle no longer occupies the corresponding parking space of the associated meter;

said detection sensor includes a variable oscillator circuit oscillating at a base frequency and responsive to the inductance of the inductive loop for indicating the presence or absence of a vehicle in the parking space;

said microprocessor controller including a crystal oscillator operating at approximately 50 times the base frequency of the variable oscillator circuit and ~~providing a signal including the crystal oscillator for controlling the variable oscillator circuit~~ and initiating a 12.5ms long charge to said variable oscillator circuit every 2.5 seconds for the purpose of measuring the operating frequency of said circuit while conserving power as needed for the practical application of the technology in parking control;

the presence or absence of a vehicle in the parking space causing a respective decrease or increase in the inductance of the inductive loop and a respective commensurate increase or decrease in the operating frequency and a respective decrease or increase in the period of the variable oscillator circuit, thereby decreasing or increasing the number of crystal oscillator pulses in each period of the variable oscillator circuit;

said oscillator providing an output signal including said crystal oscillator pulses to said microprocessor controller; and

said microprocessor controller superimposes the pulses received from the variable oscillator circuit during each 12.5 ms time frame in which the variable oscillator circuit is charged with those measured by the cycle clock to determine the presence or absence of a vehicle in the parking space ~~counting the number of pulses in a given cycle of operation of the variable oscillator circuit to determine the presence or absence of a vehicle in the parking space.~~

33 (previously presented) An electronic parking meter system according to claim 32, wherein said electronic parking meter further including means for counting coins deposited therein and setting a time interval in accordance with the amount of coins deposited; means for notifying the corresponding microprocessor controller of the amount of coins deposited; means for continuously measuring the amount of time remaining in said time interval; and means for displaying the amount of time remaining on the meter and flashing "zero" to indicate "zero" time.

34 (previously presented) An electronic parking meter system according to claim 32, wherein said electronic parking meter further including means for signaling the controller that a vehicle is in the parking space and that no coins have been deposited in the electronic parking meter .

35 (previously presented) An electronic parking meter system according to claim 34, wherein said electronic parking meter further including means for delaying the notification of the controller of the depositing of coins in the electronic parking meter from the time that the detection sensor detects the presence of a vehicle in said parking space.

36. (Amended) An electronic parking meter comprising:

multiple electronic parking meters, each electronic parking meter respectively determining the time a parking space associated with the respective electronic parking meter is occupied by a vehicle and receiving coins denoting desired parking time and indicating said time;

multiple inductive loop vehicle detection sensors and each respective inductive loop vehicle detection sensor located to detect both the physical presence or absence of a vehicle in a respective parking space and emitting a signal indicative thereof;

multiple microprocessor controllers, each controller being coupled to a corresponding sensor and a corresponding electronic parking meter for selectively controlling each electronic parking meter for selectively controlling each electronic parking meter and each controller responsive to a respective sensor signal;

a CPU coupled to each electronic parking meter for data transmission;

each electronic parking indicating time provided upon payment with a vehicle occupying said space to obtain a fixed amount of time in accordance with the amount of payment, each said electronic parking meter decrementing the indicating time;

each said controller initializing said electronic parking meter to zero when the corresponding sensor signals the corresponding controller that a vehicle no longer occupies the corresponding parking space of the associated electronic parking meter;

said detection sensor includes a variable oscillator circuit oscillating at a base frequency and responsive to the inductance of the inductive loop for indicating the presence or absence of a vehicle in the parking space;

said microprocessor controller including a crystal oscillator operating at approximately 50 times the base frequency of the variable oscillator circuit and ~~providing a signal including the crystal oscillator for controlling the variable oscillator circuit~~ and initiating a 12.5ms long charge to said variable oscillator circuit every 2.5 seconds for the purpose of measuring the operating frequency of said circuit while conserving power as needed for the practical application of the technology in parking control;

the presence or absence of a vehicle in the parking space causing a respective decrease or increase in the inductance of the inductive loop and a respective commensurate increase or decrease in the operating frequency and a respective decrease or increase in the period of the variable oscillator circuit, thereby decreasing or increasing the number of crystal oscillator pulses in each period of the variable oscillator circuit;

said oscillator providing an output signal including said crystal oscillator pulses to said microprocessor controller; and

said microprocessor controller superimposes the pulses received from the variable oscillator circuit during each 12.5 ms time frame in which the variable oscillator circuit is charged with those measured by the cycle clock to determine the presence or absence of a vehicle in the parking space ~~counting the number of pulses in a given cycle of operation of the variable oscillator circuit to determine the presence or absence of a vehicle in the parking space~~.

37. (previously presented) An electronic parking meter system according to claim 36, wherein said electronic parking meter further including means for counting coins deposited therein and setting a time interval in accordance with the amount of coins deposited; means for notifying the corresponding microprocessor controller of the amount of coins deposited; means for continuously measuring the amount of time remaining in said time interval; and means for displaying the amount of time remaining on the meter and flashing "zero" to indicate "zero" time.

38 (previously presented) An electronic parking meter system according to claim 36, wherein said electronic parking meter further including means for signaling the controller that a vehicle is in the parking space and that no coins have been deposited in the electronic parking meter .

39 (previously presented) An electronic parking meter system according to claim 38, wherein said electronic parking meter further including means for delaying the notification of the controller of the depositing of coins in the electronic parking meter from the time that the detection sensor detects the presence of a vehicle in said parking space.

Claims 40 – 41 (Canceled)

42. (Amended) A component of an electronic parking meter system, comprising:

an inductive loop vehicle detection sensor located to detect both the physical presence or absence of a vehicle in said parking space and emitting a respective signal indicative thereof; the inductive loop comprising a winding of several loops wound one on top of the other; means for securing the several loops to preserve the axial orientation of the winding and maintain the signal output from the winding; the winding being embedded in the parking space; and the respective ends of the winding being twisted with respect to one another to reduce the electric field effects of the winding;

an electric parking meter for determining the time a parking space associated with the electronic parking meter is occupied by a vehicle and receiving coins denoting desired parking time and indicating said time;

a microprocessor controller coupled to the sensor and the electronic parking meter and receiving the respective signal from said inductive loop and indicative of

the presence or absence of a vehicle for selectively controlling the electronic parking meter ; and

said detection sensor includes a variable oscillator circuit oscillating at a base frequency and responsive to the inductance of the inductive loop for indicating the presence or absence of a vehicle in the parking space;

said microprocessor controller including a crystal oscillator operating at approximately 50 times the base frequency of the variable oscillator circuit and ~~providing a signal including the crystal oscillator for controlling the variable oscillator circuit~~ and initiating a 12.5ms long charge to said variable oscillator circuit every 2.5 seconds for the purpose of measuring the operating frequency of said circuit while conserving power as needed for the practical application of the technology in parking control;

the presence or absence of a vehicle in the parking space causing a respective decrease or increase in the inductance of the inductive loop and a respective commensurate increase or decrease in the operating frequency and a respective decrease or increase in the period of the variable oscillator circuit, thereby decreasing or increasing the number of crystal oscillator pulses in each period of the variable oscillator circuit;

said oscillator providing an output signal including said crystal oscillator pulses to said microprocessor controller; and

said microprocessor controller superimposes the pulses received from the variable oscillator circuit during each 12.5 ms time frame in which the variable oscillator circuit is charged with those measured by the cycle clock to determine the presence or absence of a vehicle in the parking space ~~counting the number of pulses in a given cycle of operation of the variable oscillator circuit to determine the presence or absence of a vehicle in the parking space.~~

Claims 42-45 (canceled)

46. (Amended) A component of an electronic parking meter system, comprising:

an inductive vehicle detection sensor located to detect both the physical presence or absence of a vehicle in said parking space and emitting a respective signal indicative thereof;

an electronic parking meter for determining the time a parking space associated with the electronic parking meter is occupied by a vehicle and receiving coins denoting desired parking time and indicating said time;

a microprocessor controller coupled to the sensor and the electronic parking meter and receiving the respective signal indicative of the presence or absence of a vehicle for selectively controlling the electronic parking meter;

said controller initializing said electronic parking meter to zero when the sensor signals the controller that a vehicle no longer occupies the parking space;

said detection sensor includes a variable oscillator circuit oscillating at a base frequency and responsive to the inductance of the inductive loop for indicating the presence or absence of a vehicle in the parking space;

said microprocessor controller including a crystal oscillator operating at approximately 50 times the base frequency of the variable oscillator circuit and

~~providing a signal including the crystal oscillator for controlling the variable oscillator circuit;~~

the presence or absence of a vehicle in the parking space causing a respective decrease or increase in the inductance of the inductive loop and a respective commensurate increase or decrease in the operating frequency and a respective decrease or increase in the period of the variable oscillator circuit, thereby decreasing or increasing the number of crystal oscillator pulses in each period of the variable oscillator circuit;

said oscillator providing an output signal including said crystal oscillator pulses to said microprocessor controller; and

said microprocessor controller superimposes the pulses received from the variable oscillator circuit during each 12.5 ms time frame in which the variable oscillator circuit is charged with those measured by the cycle clock to determine the presence or absence of a vehicle in the parking space ~~counting the number of pulses in a given cycle of operation of the variable oscillator circuit to determine the presence or absence of a vehicle in the parking space.~~

47. (previously presented) The component of an electronic parking meter of claim 46, wherein said controller minimizes power consumption by de-energizing the sensor in response to no time displayed on the electronic parking meter.

48. (previously presented) The component of an electronic parking meter system of claim 46, wherein said controller de-energizes the sensor with no time displayed on the electronic parking meter to prevent the sensor from generating a false output with the entry or departure of a vehicle from the parking space.

49. (previously presented) The component of an electronic parking meter system of claim 46, wherein said controller causes the electronic parking meter to emit a flashing signal regardless of the presence or absence of a vehicle in the parking space.

50. (previously presented) The component of an electronic parking meter system of claim 46, wherein said controller in response to a signal from said sensor indicating the presence of a vehicle and a signal from said electronic parking meter that time is displayed generates a vehicle present signal.

51. (previously presented) The component of an electronic parking meter system of claim 47, wherein said controller de-energizes the sensor with no time displayed on the electronic parking meter to prevent the sensor from generating a false output with the entry or departure of a vehicle from the parking space.

52. (previously presented) The component of an electronic parking meter system of claim 51, wherein said microprocessor controller causes the electronic parking meter to emit a flashing signal regardless of the presence or absence of a vehicle in the parking space.

53. (previously presented) The component of an electronic parking meter system of claim 52, wherein said controller in response to a signal from said sensor indicating the presence of a vehicle and a signal from said electronic parking meter that time is displayed generates a vehicle present signal.

54. (previously presented) The component of an electronic parking meter system of claim 47, wherein said controller initializes said electronic parking meter to zero when the sensor signals the controller that a vehicle no loner occupies the parking space.

55. (previously presented) The component of an electronic parking meter of claim 52, wherein said controller minimizes power consumption by de-energizing the sensor in response to no time displayed on the electronic parking meter.

56. (previously presented) The component of an electronic parking meter system of claim 42, wherein said controller de-energizes the sensor with no time displayed on the electronic parking meter to prevent the sensor from generating a false output with the entry or departure of a vehicle from the parking space.

57. (previously presented) The component of an electronic parking meter system of claim 42, wherein said controller causes the electronic parking meter to emit a flashing signal regardless of the presence or absence of a vehicle in the parking space.

58. (previously presented) The component of an electronic parking meter system of claim 47, wherein said controller in response to a signal from said sensor indicating the presence of a vehicle and a signal from said electronic parking meter that time is displayed generates a vehicle present signal.

59. (previously presented) The component of an electronic parking meter of claim 54, wherein said controller minimizes power consumption by de-energizing the sensor in response to no time displayed on the electronic parking meter.

60. (previously presented) The component of an electronic parking meter system of claim 55, wherein said controller de-energizes the sensor with no time displayed on the electronic parking meter to prevent the sensor from generating a false output with the entry or departure of a vehicle from the parking space.

61. (previously presented) The component of an electronic parking meter system of claim 56, wherein said controller causes the electronic parking meter to emit a flashing signal regardless of the presence or absence of a vehicle in the parking space.

62. (previously presented) The component of an electronic parking meter system of claim 55, wherein said controller in response to a signal from said sensor indicating the presence of a vehicle and a signal from said electronic parking meter that time is displayed generates a vehicle present signal.

63. (cancelled)